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10/723,643	11/24/2003	Sundaresan Ramamoorthy	200208157-1	9724

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EXAMINER
PATEL, CHIRAG R

ART UNIT	PAPER NUMBER
2141	

NOTIFICATION DATE	DELIVERY MODE
12/10/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 October 2007</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Examiner assets that Kazemi discloses per Col 2 lines 3-22 "This load balancing may be performed in order to respond to variations in activity or demand for particular resources" The load balancing feature clearly reads on claim limitations discovering or "monitoring for servers that are able to respond to requests directed at the system".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11 and 14-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kazemi et al. – hereinafter Kazemi (US 7,089,281).

As per claim 1, Kazemi discloses a method of dynamically balancing load in a system of servers, comprising:

a) monitoring for servers that are able to respond to requests directed at the system; (Col 2 lines 3-22, Col 15 line 64 – Col 16 line 8)

b) determining a performance metric for a first set of said servers discovered by said monitoring for the servers; (Col 5 line 62 – Col 6 line 8; storage servers 210 is interpreted as a first set of said servers; Col 6 lines 25-40)

c) maintaining a table comprising said performance metric for said discovered servers; and (Col 16 lines 17-24)

d) in response to receiving a request, routing said request to a selected server in the system of servers based on said performance metric, wherein the system of servers comprises the first set of discovered servers. (Col 16 lines 48-57)

As per claim 2, Kazemi discloses the method of claim 1, further comprising: determining a load on ones of the servers in the system of servers. (Col 16 lines 48-57)

As per claim 3, Kazemi discloses the method of claim 2, further comprising: determining a stress factor for a given server based on the performance metric of the given server and the load on the given server. (Col 15 lines 49-63)

As per claim 4, Kazemi discloses the method of claim 1, further comprising: determining a stress factor for ones of the servers in the system of servers based on the performance metrics. (Col 15 lines 49-63, Col 16 lines 48-57)

As per claim 5, Kazemi discloses the method of claim 1, wherein the performance metric is a response time. (Col 6 lines 25-40)

As per claim 6, Kazemi discloses the method of claim 1, wherein the performance metric is a response time when the servers discovered by said monitoring are unloaded. (Col 6 lines 25-40)

As per claim 7, Kazemi discloses the method of claim 2, further comprising: determining a stress factor for a given server based on the performance metric of the given server and the load on the given server. (Col 16 lines 17-24)

As per claim 8, Kazemi discloses a method of dynamically balancing load, comprising:

a) dynamically discovering a first set of servers that are able to respond to requests directed at a system; (Col 5 line 62 – Col 6 line 8; storage servers 210 is interpreted as a first set of said servers; Col 15 line 49 – Col 16 line 8)

b) determining a response time of each of the first set of discovered servers; (Col 6 lines 25-40)

c) calculating stress factors for each of the first set of discovered servers, based in part on said response time; (Col 15 lines 49-63)

d) receiving a request to the system; (Col 16 lines 17-24)

e) determining a server in the system to route the request to based on the stress factors, wherein the system comprises the first set of discovered servers; and (Col 16 lines 17-24)

f) routing said request to said server in the system determined in said e). (Col 16 lines 17-24)

As per claim 9, Kazemi discloses the method of claim 8, wherein said b) comprises determining a response time for each of the first set of discovered servers to a request. (Col 6 lines 25-40)

As per claim 10, Kazemi discloses the method of claim 8, wherein said b) comprises determining a response time for each of the first set of discovered servers to a database query. (Col 6 lines 25-40)

As per claim 11, Kazemi discloses the method of claim 8, wherein said c) comprises calculating the stress factor for each of the first set of discovered servers, based on said response time and a load for each of the first set of discovered servers. (Col 15 lines 49-63)

As per claim 14, Kazemi discloses a system for balancing load, comprising:

a plurality of back-end servers that are able to service requests to the system; (Col 16 lines 17-24; Figure 2:item 210)

a front-end server having a load balancing agent comprising a table, wherein said front-end server receives requests that are forwarded to said back-end servers,

and wherein said load balancing agent is operable to: (Col 16 lines 17-24, Col 16 lines

48-57)

monitor for back-end servers that are able to service requests to the system; (Col

15 line 64 – Col 16 line 8)

determine a performance metric for the back-end servers discovered by the

monitoring; and (Col 6 lines 25-40)

determine a server of said back-end servers to route a request to based on the

performance metric. (Col 16 lines 48-57)

As per claim 15, Kazemi discloses the system of claim 14, wherein said load

balancing agent is further operable to determine a load on a given back-end server.

(Col 16 lines 48-57)

As per claim 16, Kazemi discloses the system of claim 14, wherein said load

balancing agent is further operable to determine a stress factor for ones of the back-end

servers. (Col 15 lines 49-63, Col 16 lines 48-57)

As per claim 17, Kazemi discloses the system of claim 16, wherein the stress

factor for a given one of the back-end servers is based on the performance metric and

the load on a given of the given one of the back-end servers. (Col 15 lines 49-53)

As per claim 18, Kazemi discloses the system of claim 17, wherein said load balancing agent is able to determine which server of said back-end servers to route a request to based on the stress factor. (Col 16 lines 17-24)

As per claim 19, Kazemi discloses the system of claim 14, wherein the performance metric is a response time. (Col 6 lines 25-40)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazemi (US 7,089,281) in view of Logston et al. – hereinafter Logston (US 2004/0236860).

As per claim 12, Kazemi discloses the method of claim 8. Kazemi fails to disclose wherein: said b) further comprises determining a response time of a second set of discovered servers not discovered in said a); said c) comprises calculating stress factors for each of the second set of discovered servers not discovered in said a), wherein the system further comprises the second set of discovered servers not

discovered in said a). Logston discloses wherein: said b) further comprises determining

a response time of a second set of discovered servers not discovered in said a); said c)

comprises calculating stress factors for each of the second set of discovered servers

not discovered in said a), wherein the system further comprises the second set of

discovered servers not discovered in said a). ([0107]) At the time the invention was

made, it would have been obvious to a person of ordinary skill in the art to disclose

wherein: said b) further comprises determining a response time of a second set of

discovered servers not discovered in said a); said c) comprises calculating stress

factors for each of the second set of discovered servers not discovered in said a),

wherein the system further comprises the second set of discovered servers not

discovered in said a) in the disclosure of Kazemi. The motivation for doing do would

have been to dynamically distributing the various components of a distributed

application within a client-server environment. ([0011])

As per claim 13, please see discussion under claim 12 as similar logic applies.

Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazemi

(US 7,089,281) in view of Bonnell et al. – hereinafter Bonnell (US 2002/0178262).

As per claim 20, Kazemi discloses the method of claim 17. Kazemi fails to

disclose wherein said load balancing agent is able to include back-end servers that the

load balancing agent did not discover in the determination of which server to route the

request to. Bonnel discloses wherein said load balancing agent is able to include back-end servers that the load balancing agent did not discover in the determination of which server to route the request to. ([0011]) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to disclose wherein said load balancing agent is able to include back-end servers that the load balancing agent did not discover in the determination of which server to route the request to in the disclosure of Kazemi. The motivation for doing do would have been to dynamically reacts to changing user needs at the enterprise level ([0007])

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chirag R Patel whose telephone number is (571)272-

7966. The examiner can normally be reached on Monday to Friday from 7:30AM to

4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rupal Dharia, can be reached on (571) 272-3880. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

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http://pairdirect.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197

(toll free).

Chirag Patel
Patent Examiner   C - P.
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JASON CARDONE
SUPERVISORY PATENT EXAMINER